

In the Claims:

1. (Currently Amended) A method of fabricating a high dielectric constant (high-k) capacitor structure, said method comprising:

depositing an adhesion layer [[on]] in physical contact with a SiO₂ substrate, said adhesion layer being selected from the group consisting of at least one of Si, Al, Al plus TiN, and [[SiO₂]] IrO₂; and

depositing a noble metal bottom electrode [[on]] in physical contact with said adhesion layer.
2. (Original) The method of claim 1 further comprising:

depositing a high-k dielectric material on said bottom electrode;

depositing a top electrode on said high-k dielectric layer;

patterning said top electrode and said high-k dielectric layer;

depositing an insulation layer thereon;

opening vias to said top electrode in the insulation layer;

depositing a metal pad layer in said vias and atop said insulation layer; and

patterning the metal pad layer.
3. (Original) The method recited in claim 1 wherein said bottom electrode is Pt.
4. (Original) The method recited in claim 2 wherein said top electrode is Pt.
5. (Original) The method recited in claim 2 wherein said insulation layer is SiO₂.

6. (Original) The method recited in claim 2 wherein said metal pad layer is Al or W.
- 7-15. (Canceled)
16. (New) The method of Claim 1, wherein the step of depositing an adhesion layer on the SiO_2 substrate comprises depositing a conductive layer.
17. (New) The method of Claim 17, wherein the step of depositing a conductive layer comprises depositing a layer of IrO_2 .
18. (New) The method of Claim 1, wherein the step of depositing an adhesion layer comprises depositing a layer of Al and TiN.
19. (New) The method of Claim 1, wherein the step of depositing said adhesion layer comprises depositing a first layer of Al, and depositing a second layer of TiN, the second layer being thicker than the first layer.
20. (New) The method of Claim 19, wherein the step of depositing a noble metal bottom electrode comprises depositing Pt.
21. (New) The method of Claim 16, wherein the step of wherein the step of depositing a noble metal bottom electrode comprises depositing Pt.

22. (New) A method of fabricating an electrode over a semiconductor substrate, comprising the steps of:

depositing a layer in physical contact with a SiO_2 substrate, said layer being selected from the group consisting of at least one of Si, Al, Al plus TiN, and IrO_2 ; and

depositing a noble metal electrode in physical contact with said layer.

23. (New) The method of Claim 22, wherein the step of depositing said layer on the SiO_2 substrate comprises depositing a conductive layer.

24. (New) The method of Claim 23, wherein the step of depositing a conductive layer comprises depositing a layer of IrO_2 .

25. (New) The method of Claim 23, wherein the step of depositing a noble metal electrode comprises the step of depositing Pt.

26. (New) The method of Claim 22, wherein the step of depositing a noble metal electrode comprises the step of depositing Pt.

27. (New) A method of fabricating a high K dielectric capacitor over a semiconductor substrate, comprising the steps of:

depositing an IrO_2 layer in physical contact with a SiO_2 substrate;

depositing a noble metal bottom electrode on said IrO_2 layer;

depositing a high-k dielectric material on said bottom electrode;

depositing a top electrode on said high-k dielectric layer;
patterning said top electrode and said high-k dielectric layer;
depositing an insulation layer thereon;
opening vias to said top electrode in the insulation layer;
depositing a metal pad layer in said vias and atop said insulation layer; and
patterning the metal pad layer;
wherein the IrO₂ adhesion layer is electrically coupled to the noble metal bottom electrode.

28. (New) The method of Claim 27, wherein the step of depositing a noble metal bottom electrode in physical contact with said IrO₂ layer comprises the step of depositing Pt.